will be given of certain phases of the geology of northern New England, and questions will be raised upon which the subsequent field trip should throw light. Opportunity will be given to inspect Hitchcock's large geological model of New Hampshire and Vermont (scale 1 inch to one mile), the various rock collections made during the progress of the State Surveys of 1861–79, Dr. Hawes's original set of "thin" sections of New Hampshire rocks, Warren Upham's original maps of the surface deposits of the Connecticut and Merrimac valleys, and other exhibits at the Dartmouth College Museum which illustrate pioneer work on the geology of northern New England.

On Saturday morning short excursions will be made to several points in the valley near Hanover, and in the afternoon to the vicinity of White River Junction. Some of the features to be seen and questions to be discussed are: The Connecticut valley esker; its relation to other deposits in the valley? Clays, which compose the "highest terrace"; their original extent? of glacio-fluvial or glacio-lacustrine origin? Deltas at mouths of tributary valleys, at altitudes above the "highest terrace"; their significance? Ice-contact slopes and kettle-holes, how discriminated from subsequent stream-carved topography? Erosion slopes of the Connecticut River, local trimming and local obliteration of the esker; intercision of a tributary stream by the master stream at a point some distance above their original junction; protective influence of ledges among the terraces? Unprotected terraces and abandoned courses (of incised meandering pattern) of tributary streams. Accordant altitudes of unprotected terraces up- and down-valley. Do some of these represent long pauses between stages of regional up-warping? Was the post-glacial elevation of New England steady and continuous, or interrupted by an interval of halting or subsidence?

The field excursion will close at White River Junction before the departure of the 5.35 P.M. train for Boston.

HERDMAN F. CLELAND,
Secretary

WILLIAMSTOWN, MASS.,
September 24, 1910

THE ILLUMINATING ENGINEERING SOCIETY

THE fourth annual convention of the Illuminating Engineering Society will be held October 24 and 25, 1910, in Baltimore, Maryland. The convention will meet at the Johns Hopkins University.

Following the two days convention there will be given at the university a course of thirty-six lectures on illuminating engineering. These lectures will be given in the physical laboratory from October 26 to November 8. A large number of those who will attend the convention have already arranged to take advantage of the opportunity offered by the lecture course. The lecturers have been invited by the university upon the advice of the society.

Plans are rapidly maturing for the convention proper. There will be two sessions on each day of the convention—morning and afternoon. On Monday evening there will be a public lecture in McCoy Hall to be followed at 9.30 by a reception in the physical laboratory and an exhibition of the apparatus to be used in the lecture course. On Tuesday evening there will be a banquet which will conclude the convention.

The lectures on illuminating engineering are as follows:

"The Physical Basis of the Production of Light" (three lectures), Joseph S. Ames, Ph.D., professor of physics, The Johns Hopkins University.

"The Physical Characteristics of Luminous Sources" (two lectures), Edward P. Hyde, Ph.D., president, Illuminating Engineering Society; director of Physical Laboratory, National Electric Lamp Association.

"The Chemistry of Luminous Sources" (one lecture), Willis R. Whitney, Ph.D., director of Research Laboratory, General Electric Co.; past president, American Chemical Society.

"Electric Illuminants" (two lectures), Charles P. Steinmetz, Ph.D., consulting engineer, General Electric Co.; professor of electrical engineering, Union University.

"Gas and Oil Illuminants" (two lectures), (1) M. C. Whitaker, B.S., M.S., professor of industrial chemistry, Columbia University. (2) Alexander C. Humphreys, M.E., Hon. Sc.D., presi-

dent of Stevens Institute of Technology; past president, American Gas Institute.

"The Generation and Distribution of Electricity with Special Reference to Lighting" (two lectures), John B. Whitehead, Ph.D., professor of applied electricity, The Johns Hopkins University.

"The Manufacture and Distribution of Gas, with Special Reference to Lighting" (two lectures), (1) Mr. E. G. Cowdery, vice-president of the People's Gas, Light and Coke Co., Chicago. (2) Mr. Walter R. Addicks, vice-president of Consolidated Gas Co., New York.

"Photometric Units and Standards" (one lecture), Edward B. Rosa, Ph.D., physicist, National Bureau of Standards.

"The Measurement of Light" (two lectures), Clayton H. Sharp, Ph.D., test officer, Electrical Testing Laboratory, New York City; past president, Illuminating Engineering Society.

"The Architectural Aspects of Illuminating Engineering" (two lectures), Walter Cook, A.M., vice-president, American Institute of Architects; past president, Society of Beaux Arts Architects.

"The Decorative Aspects of Illuminating Engineering" (one lecture), Mr. Louis C. Tiffany, president of the Tiffany Studios, New York.

"The Physiological Aspects of Illuminating Engineering" (two lectures), P. W. Cobb, B.S., M.D., physiologist of the Physical Laboratory of the National Electric Lamp Association.

"The Psychological Aspects of Illuminating Engineering" (one lecture), Dr. R. M. Yerkes, assistant professor of comparative psychology, Harvard University.

"The Principles and Design of Interior Illumination" (six lectures), (1) L. B. Marks, B.S., M.M.E., consulting engineer, New York City; past president, Illuminating Engineering Society. (2) Mr. Norman Macbeth, illuminating engineer, The Welsbach Co. (3) Professor W. E. Barrows, assistant professor of illuminating engineering, Armour Institute.

"The Principles and Design of Exterior Illumination" (three lectures), (1) Louis Bell, Ph.D., consulting engineer, Boston, Mass.; past president, Illuminating Engineering Society. (2) E. N. Wrightington, A.B., Boston Consolidated Gas Co.

"Shades, Reflectors and Diffusing Media" (one lecture), Van Rensselaer Lansingh, B.S., general manager of Holophane Co.

"Lighting Fixtures" (one lecture), Mr. Edward F. Caldwell, senior member of firm and designer, Edward F. Caldwell & Co., New York.

"The Commercial Aspects of Electric Lighting" (one lecture), John W. Lieb, Jr., M.E., third vice-president of New York Edison Co.; past president, American Institute of Electrical Engineers.

"The Commercial Aspects of Gas Lighting" (one lecture), Walton Clarke, M.E., president of The Franklin Institute, Philadelphia; third vice-president, United Gas Improvement Co., Philadelphia.

The laboratory demonstrations will be under the direction of: Charles O. Bond, manager of Photometric Laboratory, United Gas Improvement Company, Philadelphia; Herbert E. Ives, Ph.D., physicist, Physical Laboratory, National Electric Lamp Association, and Preston S. Millar, Electrical Testing Laboratories, New York, and general secretary, Illuminating Engineering Society.

SCIENTIFIC NOTES AND NEWS

The Academy of Sciences at Turin has elected as foreign members Professor Maximillian Noetcher, of Erlangen; Professor Adolf von Baeyer, of Munich; Professor Fr. Ed. Suess, of Vienna, and Professor J. J. Thomson, of Cambridge.

Dr. Hans Chiari, professor of pathological anatomy at Strasburg, is the lecturer this year on the Herter foundation of the Johns Hopkins University. He lectures on October 5 and 7.

Professor Arthur A. Noyes, director of the Research Laboratory of Physical Chemistry in the Massachusetts Institute of Technology, has been appointed non-resident university lecturer on chemical research in Clark University. Professor Arthur Michael will deliver before the university chemical students at Clark an informal lecture on some experiences in his organic researches.

The Warren triennial prize for 1910 of the Massachusetts General Hospital, Boston, has been awarded to Dr. George H. Whipple, assistant professor of pathology in Johns Hopkins University and resident pathologist in Johns Hopkins Hospital, for an essay on "The Pathogenesis of Icterus."

Dr. M. P. Ravenel, professor of bacteriology at the University of Wisconsin, is in Europe, where he will represent the University of Wisconsin at the centennial celebra-